The UNLV Dish Stirling Project

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Overarching Project Goals

- At or near the end of the project, the industry team members will be selling systems into the commercial marketplace.
- The UNLV center of excellence will provide technical expertise to the solar dish industry and will be coordinated with a comparable center for solar hydrogen.

Specific UNLV Objectives

- To develop a facility that includes two dish-Stirling power generation systems.
- To operate the systems and feed the power into the Nevada Power grid.
- To train students in the operations, maintenance, and technology improvements of these systems.
- To perform operational system enhancements as may be appropriate.

Political Factors

- This project is part of an effort within the State of Nevada to develop solar energy. It supports the commercialization of dish/engine technology and represents the first step of the Nevada dish initiative.
- There is a great deal of political support for this effort from some key Nevada people.

Summary of Events to Date

- 4/17 Kickoff Planning Meeting at UNLV
- 4/18 Signed Contract Logged at UNLV
- 5/14 Installation Began
- 8/13 Basic Installation Completed
- 8/24 Dedication Held
- 9/11 Most Student Hiring Completed
- 11/01 UNLV Operating All Systems

Efforts Currently Underway

- 7-day-a-week operation and reporting.
- Development of a real time data acquisition system for both units.
- Development of a web page for the project with web cam and remote access.
- Working toward complete interaction with the SUNLAB Reliability Database.
- Modeling efforts related to improving overall performance.

The Systems

The Students

Conclusions

- Two dish Stirling systems (units from SAIC and SES) have been installed and are operable at UNLV. Rated power 48 kW.
- Power is fed into the Nevada Power grid.
- Eleven students have been trained to operate the systems seven-days-a-week.
- Several technology enhancements are underway, including improved system monitoring and on-line data presentation.